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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,789	07/27/2001	Jayne B. Roderick	IR-026-C1	2194

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EXAMINER
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HANNE, SARA M

ART UNIT	PAPER NUMBER
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2179

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/918,789	<b>Applicant(s)</b> JAYNE RODERICK, KAREN MACLEAN, VERPLANK,	
	<b>Examiner</b> Sara M Hanne	<b>Art Unit</b> 2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This action is responsive to the amendment received on January 28, 2004.  
Examiner notes amended Claims 1, 13, 16 and 17 and newly added Claims 18 and 19.  
Claims 1-19 are now pending in the application.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1, 5, and 8 -17 rejected under 35 U.S.C. 102(a) as being clearly anticipated by Allport, US Patent Application 2002/0135619.

As in Claims 1, 16 and 17, Allport teaches a pushbutton user interface, method and storage medium for enabling a user to preview the effect of activating a pushbutton comprising a means for sensing input (display activation) to the pushbutton that does not activate the button and in response to sensing input, but determines the nature of the input (determines which input, par. 31) and preview display functionality of the pushbutton (displays a preview of the functionality of the button) and displaying a preview indicating the effect of activating the pushbutton ("a first type of physical motion ... may cause a first event to occur, such as displaying information on the display to describe a function of the button", Pg. 1, par. 5) wherein the content of the preview varies in accordance with the degree of force applied to the pushbutton (par. 33).

As in Claim 5, Allport teaches the display to be visual (“quickly see what each button 15 is used for if the user so desires”, Pg. 4, par.30).

As in Claim 8, Allport teaches sensing an input that produces activation of the pushbutton (execution activation motion).

As in Claim 9, Allport teaches the preview sensing means to be along an axis different than the activation sensing means (“moving down half-way then down all the way”, Pg. 4, par. 32).

As in Claim 10, Allport teaches the preview sensing means to be along an axis different than the activation sensing means (“a first activation requirement could be sliding the button 15 forward towards the display area 25, while the second activation requirement could be pressing down on the button”, Pg. 4, par. 32).

As in Claim 11, Allport teaches the preview sensing means to be along an axis orthogonal to the axis along which the activation sensing means senses motion (See Claim 10 rejection, Pg. 4, par. 32).

As in Claim 12, Allport teaches the interface to enable a user to preview the effect of activating any of several pushbuttons by identifying which one an input has been provided for that does not produce an activation but determines the nature of the input and preview display functionality of the pushbutton (determines which input, par. 31) and displaying a preview in response to the sensed input of the identified pushbutton (plurality of buttons, and “the function of each button or button set is displayed when said button or button set is activated using a display activation motion

... ", Pg. 2, par. 19) wherein the preview varies based on a characteristic of the input to the pushbutton (par. 33).

As in Claim 13, Allport teaches a mechanical input apparatus (Pg. 1, par. 3) for enabling a user to preview the effect of activating a mechanical input apparatus comprising a means for sensing input to the mechanical input apparatus that does not activate the apparatus and in response to sensing input, displaying a preview indicating the effect of activating the mechanical input apparatus wherein the content of the preview varies in accordance with the degree of force applied to the mechanical input apparatus (See Claim 1 rejection *supra*).

As in Claim 14, Allport teaches the mechanical input apparatus to be a doorknob ("various types of buttons, such as ... knobs", Pg. 1, par. 3).

As in Claim 15, Allport teaches the mechanical input apparatus to be a switching apparatus ("various types of buttons, such as ... switches" , Pg. 1, par. 3).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allport, US Patent Application 2002/0135619, and further in view of Braun et al., US Patent 6343349. Allport illustrates a method for button activation prediction and visual preview

of button activation by sensing user input. While Allport teaches such a system with button sensing and preview activation interface, they fail to show the use of a force sensitive resistor to sense user input as recited in Claim 2. In the same field of the invention, Braun et al. teaches an activation interface similar to that of Allport.

In addition, Braun et al. further teaches the use of a force sensitive resistor as a sensor for motion activation (Column 9, lines 56-61). It would have been obvious to one of ordinary skill in the art, having the teachings of Allport and Braun et al. before him at the time the invention was made, to modify the button sensing and preview activation interface taught by Allport to include the force sensitive resistor of Braun et al., in order to obtain a force sensing method for user input. One would have been motivated to make such a combination because a force responsive apparatus for activating a button's activation preview would have been obtained, as taught by Braun et al.

6. Claims 3-4 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allport, US Patent Application 2002/0135619, and further in view of Chang et al., US Patent 6424356.

Allport illustrates a method for button activation prediction and visual preview of button activation by sensing user input.

While Allport teaches such a system with button sensing and preview activation interface, they fail to show the use of potentiometers as recited in Claim 3. In the same field of the invention, Chang et al. teaches an activation interface similar to that of Allport. In addition Chang et al. further teaches the use of potentiometers as sensors for motion activation (Column 5, lines 29-40). It would have been obvious to one of

ordinary skill in the art, having the teachings of Allport and Chang et al. before him at the time the invention was made, to modify the button sensing and preview activation interface taught by Allport to include the use of a potentiometer of Chang et al., in order to obtain an apparatus capable of sensing user input. One would have been motivated to make such a combination because an apparatus for distinguishing inputs on one button using different levels of resistance would have been obtained, as taught by Chang et al.

While Allport teaches such a system with button sensing and preview activation interface, they fail to show the use of strain gauges as recited in Claim 4. In the same field of the invention, Chang et al. teaches an activation interface similar to that of Allport. In addition Chang et al. further teaches the use of strain gauges as sensors for motion activation (Column 5, lines 29-40). It would have been obvious to one of ordinary skill in the art, having the teachings of Allport and Chang et al. before him at the time the invention was made, to modify the button sensing and preview activation interface taught by Allport to include the strain gauge of Chang et al., in order to obtain an apparatus capable of sensing user input. One would have been motivated to make such a combination because an apparatus for distinguishing inputs using different levels of strain on one button would have been obtained, as taught by Chang et al.

While Allport teaches such a system with button sensing and preview activation interface, they fail to show the use of audio displays as in Claim 6. In the same field of the invention, Chang et al. teaches an activation interface similar to that of Allport. Chang et al. further teaches the use of audio displays (Fig. 2, ref. 21 and corresponding

text). It would have been obvious to one of ordinary skill in the art, having the teachings of Allport and Chang et al. before him at the time the invention was made, to modify the button sensing and preview activation interface taught by Allport to include the audio display of Chang et al., in order to obtain a control for activating audio output indicating a preview of what activation would result. One would have been motivated to make such a combination because a distinguishable response for audio systems or a response for visually impaired users would have been obtained, as taught by Chang et al.

While Allport teaches such a system with button sensing and preview activation interface, they fail to show the use of haptic displays as in Claim 7. In the same field of the invention, Chang et al. teaches an activation interface similar to that of Allport. Chang et al. further teaches the use of haptic displays (Fig. 2, ref. 34 and corresponding text). It would have been obvious to one of ordinary skill in the art, having the teachings of Allport and Chang et al. before him at the time the invention was made, to modify the button sensing and preview activation interface taught by Allport to include the haptic display of Chang et al., in order to obtain a control for activating haptic output indicating a preview of what activation would result. One would have been motivated to make such a combination because a tangible preview system would have been obtained, as taught by Chang et al.

7. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allport, US Patent Application 2002/0135619, and further in view of Furusho et al., US Patent 6310604, hereinafter Furusho.

Allport illustrates a method for button activation prediction and visual preview of button activation by sensing user input. While Allport teaches such a system with button sensing and preview activation interface, they fail to show the use of an olfactory display as recited in Claim 18. In the same field of the invention, Furusho teaches a force feedback apparatus similar to that of Allport. In addition Furusho further teaches olfactory display (Column 8, line 55, et seq.). It would have been obvious to one of ordinary skill in the art, having the teachings of Allport and Furusho before him at the time the invention was made, to modify the button sensing and preview activation interface taught by Allport to include the use of olfactory displays of Furusho, in order to obtain an apparatus capable of producing olfactory previews. One would have been motivated to make such a combination because an apparatus for testing smells for user likeability or virtual experience would have been obtained, as taught by Furusho.

Allport illustrates a method for button activation prediction and visual preview of button activation by sensing user input. While Allport teaches such a system with button sensing and preview activation interface, they fail to show the use of a taste display as recited in Claim 19. In the same field of the invention, Furusho teaches a force feedback apparatus similar to that of Allport. In addition Furusho further teaches taste display (Column 8, line 55, et seq.). It would have been obvious to one of ordinary skill in the art, having the teachings of Allport and Furusho before him at the time the invention was made, to modify the button sensing and preview activation interface taught by Allport to include the use of taste displays of Furusho, in order to obtain an apparatus capable of producing taste previews. One would have been motivated to

make such a combination because an apparatus for testing flavors for user likeability or virtual experience would have been obtained, as taught by Furusho.

***Response to Amendment***

8. Applicant's arguments with respect to the amended claims have been fully considered but they are not persuasive.

With respect to the newly added issue in the amended claims: "...wherein the content of the preview varies in accordance with the degree of force applied to the pushbutton" or "to the mechanical device", the examiner feels that the limitation still does not overcome the previous rejection. Allport teaches two degrees of force (either no force or some force) resulting in two different displays (the original display gives some indication, and in response to the sensed input, a more detailed preview is shown). This is clearly taught by the preview and activation inputs and corresponding displays as disclosed *supra*.

Furthermore, the newly added Claims 18 and 19, are rejected as being unpatentable over Allport in view of Furusho et al., as seen *supra*.

**Conclusion**

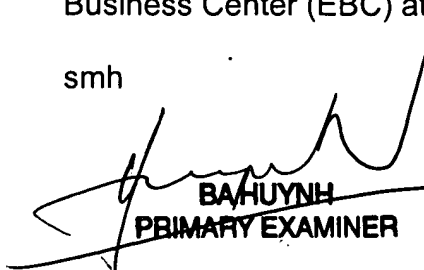
9. The prior art made of record on form PTO-892 and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach similar input sensing apparatus and activation responsive inputs and methods.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sara M Hanne whose telephone number is (703) 305-0703. The examiner can normally be reached on M-F 7:30am-4:00pm, off on alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R Herndon can be reached on (703) 308-5186. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

smh

  
**BA HUYNH**  
**PRIMARY EXAMINER**